Identify Slow Learners in Math: Case Study in Rural Schools

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Abstract—One way to identify slow learners is by taking an IQ (Intelligence Quotient) test. However, at schools in rural areas, facilities for carrying out IQ tests are complicated to obtain and usually can only be done in big cities. Even though student identification is essential before students enroll in elementary schools, it is to determine student abilities, so students can later be facilitated according to their learning needs. This research is a descriptive study with a qualitative approach that aims to identify slow learners in rural schools. The participants were all students in four schools in one village in Indonesia. Data were obtained through teacher interviews, sorting student report card scores, observing the learning process, and administering tests. The results showed that based on interviews with teachers, sorting students' report cards, observing the learning process, and giving tests, 17 students were identified as slow learners. They are six female students and 11 male students. In addition to using the IQ test, slow learner identification can be made by interviewing teachers, looking at student report cards, observing the learning process in class, and giving tests to students. This way, each teacher can quickly identify each student, which will significantly help teachers in rural schools.

Keywords—identify, rural school, slow learner

1 Introduction

Slow learner is often used to describe children with difficulty mastering knowledge or skills. The command must be repeated so the child can carry it out. Some skills are also slow to be mastered by children who are identified as slow learners. These children sometimes have difficulty adapting to the surrounding environment, withdraw, and socialize.

Slow learners have cognitive abilities below average [1]. Slow learner Intelligence Quotient (IQ) scores are below average but not less than 70 [2], 70-90 [3], 71-89 [4], 76-89 [5], and 70-90 [6]. From some of these opinions, it can be concluded that slow learners have intelligence levels between 70-90 [7]. Slow learners are characterized by: (1) limited cognitive ability, (2) low memory, (3) disturbed concentration, and (4) unable to explain ideas [5]. Slow learners have the following characteristics: (1) perform at a higher level when information is presented in concrete terms and have diffi-

culty understanding abstract ones; (2) it is difficult to transfer or generalize skills, knowledge, and strategies in learning; (3) difficulties in learning new material and adapting incoming information to information they already know; (4) problems in preparing long-term plans and time management; and (5) requires extra practice and more time to develop the same academic skills as their peers [8]. Slow learners are also slow in learning mathematics, as indicated by their weak ability to manipulate computational algorithms [9], [10]. Based on some of the characteristics mentioned in these theories, it can be concluded that slow learners will have problems when faced with math problems.

On the other hand, slow learners cannot be called disabled even though their abilities are below average. Slow learners are regular students. However, they do not like studying under regular education rules, which require them to struggle to cope with the academic demands of regular classes [11]. Elementary school students classified as slow learners are on the boundary between students with mental retardation and students with average intelligence. Thus, it can be concluded that slow learners are students with intellectual capacity below the average regular student, and they are slow in understanding lessons but are not included in the mental retardation group. Physically, slow learners look like students in general, but in conceptual learning, they do not have the ability and difficulty when faced with problems related to abstract concepts.

Slow learners often go undetected because they do not show abnormalities in their development, as can be detected in children with mental retardation. Therefore, they do not get special education. However, they experience difficulties when they are in regular or formal schools. Problems like this are often not realized by parents and teachers, so this will cause problems for teachers in schools, especially in learning in elementary schools. Parents or teachers must identify the abilities and difficulties faced by students as material for determining what is needed so that the teacher can develop realistic and objective learning programs according to the needs of children. If it is not detected immediately, this will hamper students' personal, social and academic development.

Early detection is needed so that the student's condition can be immediately known so that he gets the proper treatment and help. One way that can be done to detect slow learners is by examining intelligence tests (IQ). IQ is a measure of individual intellectual ability and potential and can be used to categorize students as slow learners. However, schools in rural areas do not carry out identification tests before accepting new students due to limited facilities [12]. These schools have not been able to facilitate prospective students to carry out IQ tests because schools in cities can only carry such tests. The IQ test is not the only measurement tool to identify slow learners because several schools use student learning achievement tests and interviews with teachers, principals, and counselors. IQ is not a perfect standard to categorize slow learners. A person with a low IQ may have good learning achievement, whereas students with a high IQ may have low learning achievement [13]. Thus, it can be interpreted that teachers or schools can carry out slow learner identification tests in other ways than IQ tests if schools do not have adequate facilities.

Several studies related to the identification of slow learners have been carried out by previous researchers, including research conducted by Al-Hashmi [14], which states that teachers use several methods to identify slow learners. The trick is to use the entrance test at the beginning of the semester, exam results from the previous year, continuous assessment results, intelligence test results, and class observations. Vasudevan also suggests several ways to identify slow learners, including 1) daily observations of students' behavior in a class by teachers, which class teachers can do because they interact most often with students; 2) assessment of student work in certain subjects, based on student grade records at school, for example by looking at report cards; 3) parents' opinions regarding students' progress and difficulties in learning various subjects, doing homework, language difficulties, emotional problems, illnesses, injuries, and physical disabilities, as well as problems; 4) measure intellectual ability or IQ score; 5) competency-based or diagnostic tests in various subjects [15]. However, none of the studies that have been carried out have described in detail how the identification process from the initial stages until students who are slow learners are found/identified.

Therefore, based on the explanation above, researchers are interested in researching to identify slow learners. This paper reports in detail the steps for identifying slow learners that the researchers carried out in one of the suburban schools.

2 Literature review

This study aims to assist teachers in identifying slow learners without using an IQ test.

2.1 Characteristics and causes of slow learners

Slow learners are students with low learning achievement or slightly below the average of normal children in general, either in one or all academic areas [9]. Slow learners have been defined in various ways regarding IQ ranges, academic achievement, teacher grades, reading levels, or combinations of these. They show below-average intellectual capacity on at least one of these criteria and tend to show mathematical atrophy or developmental delays. The number of slow learners in one class usually ranges from 20% -25% of the total number of students in the class [1]. Slow learners are in the second lowest quartile in the class [13].

In another theory, it is said that slow learners have the following characteristics: (1) have below average intelligence, which is between 70-90 on the WISC (Wechsler Intelligent Scale for Children) scale; (2) slow learners are not fluent in communicating, either through expression as well as in expressing ideas; (3) the emotions of slow learners are less stable and sensitive; (4) the socialization abilities of slow learners are not very good or relatively passive [16], Weak memory, lack of concentration, difficulty expressing ideas, and unstable emotions [17], [18], [19], [20], [11]. Inadequate reading level, slow in mathematics, inaccurate calculations, afraid of mathemat-

ics, apathetic, indifferent to learning, and often absent from school [10]. That in general, slow learners have difficulties in learning mathematics.

In this study, the slow learners in question are those in public schools (not special schools (SLB) or inclusive schools), which will be taken from 20% -25% of the number of students in one class with abilities in the lower quartile, who do not have physical disabilities and have characteristics like the theories mentioned earlier.

Some things that cause students to become slow learners include absence from school, unfavorable personal circumstances, and inadequate environmental conditions [18]. Other factors are students' low cognitive abilities, inadequate social and family environments, and the education system's failure [21]. Salomi, in his writings, explains that several factors cause students to become slow learners, namely: 1) vision problems, which do the writing on the blackboard not visible, so they cannot copy it correctly; 2) health problems, unfavorable health conditions can slow down the growth and development of children; 3) parents who are busy, illiterate, and economically disadvantaged; 4) violence in schools. Violence can foster hatred towards teachers, affecting psychological learning abilities; 5) students can become slow learners because their parents are overprotective; and 6) emotional and social problems [22].

Based on these theories, it can be seen that a child can become a slow learner due to two things, namely: internal and external causes. Internal causes, such as intellectual level (IQ) and due to illness, and internal causes are difficult to change because they are congenital. External causes include the environment (teachers, friends, and family), facilities, and infrastructure. Students who become slow learners due to external factors can still be cultivated so that their learning outcomes are optimal in a conducive environment that can support their learning process. In this study, the slow learners to be identified are learners caused by external problems.

2.2 Slow learner in mathematics

There are several characteristics of a slow learner in learning mathematics, including 1) In general, weak in mathematics; 2) mentally immature, they do not go through a stage of intellectual development that can make them think abstractly and logically when learning mathematics; 3) weak in understanding concepts and principles when explaining something abstract and symbolic; 4) unable to respond spontaneously, they jump to conclusions, guess answers, or do not even try to solve the problem; 5) weak in determining order, sequence, and structure; 6) have a slow learning style, they will learn mathematics if they are allowed to learn in their way at their usual average speed. 7) upon entering secondary school, they will obtain unsatisfactory grades, this is because their basic knowledge in mathematics is inadequate; 8) some students who are not very successful in math class lack academic skills; 9) they have reading problems and minimal academic skills, making it challenging to develop formal speaking skills and their vocabulary is also limited [23]. Problems like these cause slow learners to be less successful than other students in math classes.

Slow learners have difficulty in several ways, such as difficulty analyzing complex mathematical problems and applying correct algorithms to solve problems, difficulty

recognizing different units of measurement, and difficulty with flat shapes and calculations, especially those involving fractions [21]. The difficulty of slow learners in learning mathematics is because mathematics is a subject that involves instruction, processing, and memory.

Teachers need to know the difficulties of slow learners in learning mathematics. Teachers need to know their cognitive and behavioral characteristics in learning mathematics so that later it will enable teachers to design suitable learning programs that can support their learning needs. Therefore, it is necessary to identify slow students early, especially in learning mathematics.

2.3 Identification of slow learners

Some of the characteristics of slow learners can be used as a benchmark by teachers to identify slow learners. Various instruments need to be used in collecting data on slow learner problems. Teachers can create tests, checklists, and rating scales [14]. In addition, observations can also be made because observation is the basis for assessing human skills and behavior. Therefore, observation is useful for identifying behavioral problems [24]. Helpful information can also be obtained by interviewing parents, teachers, classmates, and students. Interviews with teachers must be conducted to gather information about the students being taught. Senior teachers at school will easily be able to identify student behavior in class related to learning difficulties. Teachers know that slow students need more time and assistance to acquire skills than the average child.

In one study, 104 teachers were given a questionnaire to ask how they identified slow learners at school. The teachers do this by using the entrance test at the beginning of the semester, looking at the results of the previous year's exams and the results of ongoing assessments, IQ test results, and classroom observations. The most widely used strategy is continuous observation and assessment [14].

Psychologists and experts use various tools and techniques to identify slow learners, namely: observation techniques, case studies, health checks, scholastic techniques, personality tests, intelligence tests, as well as psychometric and psychological tests. In line with that, other researchers put forward several ways to identify slow learners, including 1) daily observations of students' behavior in a class by teachers, which class teachers can do because they most often interact with students; 2) assessment of student work in certain subjects, based on student grade records at school, for example by looking at report cards; 3) parents' opinions regarding students' progress and difficulties in learning various subjects, doing homework, language difficulties, emotional problems, illnesses, injuries, and physical disabilities, as well as problems; 4) measure intellectual ability or IQ score; 5) competency-based or diagnostic tests in various subjects [15].

Early diagnosis of slow learners is needed between the ages of 2 to 6 years [1]. It is intended that parents or teachers can prepare the right strategy to support the child's learning process early. If it is identified that a student is a slow learner, an appropriate evaluation should be carried out to identify the student's weaknesses, and relevant strategies should be implemented to address them.

In this study, researchers worked with expert/senior teachers at schools to identify slow learners. The teacher is a very important informant in obtaining information about students because when teaching indirectly, the teacher observes the condition of each student. To confirm the data obtained from the teacher interviews, the researcher observed the learning process directly in class several times. In addition, the researcher also looked at student report cards and gave a concept understanding test, in this case, specifically for mathematics.

3 Methodology

This research is a descriptive study using a qualitative approach. This article reports some initial findings from a two-year study conducted between 2022-2023 on slow learners. This paper describes how to identify slow learners without doing an IQ test. This research was conducted in a rural school in a district in Indonesia, Kerinci. Schools in this area do not have supporting facilities for carrying out IQ tests during school admission. Identification tests are needed so teachers, schools, and parents can provide appropriate learning support for slow learners. It indirectly provides knowledge to teachers about the cognitive and behavioral characteristics of slow learners so that the teacher can consider appropriate learning styles and strategies to apply in class.

Research participants were grade VI students from four schools located in one village in the Kerinci district, namely SDN A (8 students), SDN B (16 students), SDN C (20 students), and SDN D (17 students), and the total is 61 students. Based on researchers' observations in previous research, it was described that these four schools did not have complete facilities and infrastructure (such as no libraries, laboratories, etc.). The socio-economic conditions of the students who attend school there are also below average, and their parents mostly work as farmers and fishermen. Then, the last education of parents of students who attend school here is, on average middle school [12]. These four schools were chosen because they did not yet have adequate facilities to categorize/identify their students, and teachers did not know about this.

In this study, researchers worked with expert/senior teachers at schools to identify slow learners. Apart from asking the class VI teacher, the researcher also asked the class V teacher to obtain accurate data. The fifth-grade teacher was also interviewed because they were considered to know more about the sixth-grade students, and the fifth-grade teacher had taught them for the previous year because, most likely, the teacher still remembered all of her students. After all, it had not been long since their grade promotion. The teacher is a very important informant in obtaining information about students because when teaching indirectly, the teacher observes the condition of each student. Teachers were asked their opinions about students who had problems learning mathematics. Students who have problems here follow the categories/characteristics of slow learners mentioned in the theoretical study.

In addition, the grades of report cards on student learning outcomes, specifically in mathematics, were also looked at, and report cards were sorted based on the lowest to the highest math scores. To confirm the data obtained from teacher interviews and

report card scores, observations were made of the learning process directly in class for three meetings. The aspects observed are the ability to understand mathematical concepts, language (verbal and nonverbal), emotions, motivation, and socialization.

Finally, students are given a test consisting of 17 questions. The identification questions are prepared based on material that has been studied by grade 6, which contains comprehensive material from grade 1 to grade 5 of elementary school. The questions are arranged based on the syllabus. Before the questions are validated, validation must be done to obtain accurate data from the instruments used [25]. The validation is content and construct. Content validation was carried out to see the suitability of the contents of the test with class VI students.

Meanwhile, to test the accuracy of the arrangement of the question items so that their meaning can be understood (not ambiguous), construct validation was used. The instrument is said to be valid in content and construct if it has been declared valid by the validator. The validators in this study consisted of 1 Elementary Education lecturer and two Elementary Schools teachers.

At first, the number of questions compiled was as many as 20 items. After receiving input from the validator, the remaining 17 items can be used to identify slow learners. The material contained in the questions is arithmetic operations on whole numbers (1 item), integer arithmetic operations (1 item), operations on arithmetic powers of two and three, square roots and cubes (2 items), KPK and FPB (2 points); fractions (2 items); unit of measure quantity, unit of weight, unit of length, unit of time, unit of volume (2 items); time, distance and speed (1 point); perimeter and area of the quadrilateral (1 point); flat wake characteristics (1 point); geometrical properties of cubes and blocks (1 point); the volume of cubes and blocks (2 items); as well as presentation of data in the form of tables, bar charts, and pie charts (1 point). Questions were designed only at the C1 (knowledge), C2 (understanding), and C3 (application) levels.

Based on the explanation above, it is clear that the collection method used is through 1) interviews using an interview guideline instrument; 2) collecting the value of student mathematics learning outcomes, the instrument is the value of student report cards; 3) Observation, the instrument is in the form of an observation sheet of the learning process in class; and 4) cognitive measurement, the instrument used is an identification test developed by researchers and has been validated by experts.

To accurate the results of the findings, researchers carried out several methods, namely (a) Triangulation, validating data by comparing data with data obtained through different instruments. In this case, several instruments were used as in the previous explanation; (b) member checking is the process of data accuracy by checking directly on the participants, carried out by asking several questions to confirm the correctness of the data obtained; and (c) auditing, aims to verify that the data obtained is following the expected standards [26].

4 Result

The process of identifying slow learners in this study was carried out by interviewing teachers, sorting student report card scores, observing, and administering tests.

4.1 Teacher interview

In this process, the teacher is asked for his opinion regarding students who have problems learning mathematics. The questions asked include: 1) Which students have difficulty learning in class? 2) In what subjects do students experience difficulties when studying? What problems are they facing? 3) What material is complex for them to understand mathematics? The following is the conclusion of interviews with teachers at each school.

Table 1. Conclusion of Interviews with Teachers

School	Interview Conclusion
SDN A	There were four students with -average abilities: three boys (AQ, AD, EN) and one girl (AF). AQ has low ability in all subjects, pays little attention to studying, and is mischievous, but if he focuses on studying, he can still be directed. In mathematics, the student with the lowest ability is AD. EN and AQ have almost the same mathematical abilities, and so does AF. These four students have difficulty in learning because their comprehension is low. Mathematical material that is considered difficult for them is geometric shapes.
SDN B	Four teacher recommendations included students with low abilities, three male students (IR, RI, DA), and one female student (WL). IR and RI are less fluent in reading and still spell. Because their reading ability is still lacking, it is difficult for them to understand the questions quickly. DA and WL also have low proficiency, but both can read fluently. These four students are often not serious about studying, not focused, like to disturb friends, and do many unimportant things. The most challenging subject for them is math, especially fractions.
SDN C	Students recommended by the teacher are ZK, FE, IS, and WK, sorted from the lowest ability to the highest ability. ZK for all subjects experienced difficulties. FE is the most difficult in mathematics, but it is not too problematic for other subjects. IS is almost the same as FE. WK did not have too many problems, but his concentration was often scattered, and he did not focus on studying. The ability of the four students is low. Besides that, they also have less motivation and interest in learning. Fractions are complex for students to understand, especially for word problems, and they have difficulty changing word problems into mathematical sentences.
SDN D	If sorted from the lowest ability to the highest, four people's names are JH, MF, IF, and AM. The four students had difficulties in all subjects, especially mathematics and problem reasoning. Usually, they have difficulty understanding the concept of integers (number operations), division, and fractions. They also often do not pay attention when studying, have low abilities, and are less diligent.

Based on the results of the interviews, a recapitulation of the identification results was made. The recapitulation results can be seen in the following table.

Table 2. Identification Results Based on Interviews with Teachers

SDN A	SDN B	SDN C	SDN D
1. AQ 2. EN 3. AD 4. FA	1. IR 2. RI 3. WL 4. DA	1. FE 2. ZK 3. WK 4. IS	1. IF 2. MF 3. JH 4. AM

4.2 Value of learning outcomes

After conducting interviews with teachers, researchers asked for data on students' mathematics learning outcomes to be sorted. The value of learning outcomes can be seen from the report card. Then the value is sorted based on the lowest to the highest mathematical value, limited to the lowest 5. The results can be seen in Table 3.

Table 3. Identification Results Based on Report Cards

SDN A	SDN B	SDN C	SDN D
1. AQ 2. EN 3. FA 4. AD 5. OS	1. IR 2. NA 3. ZA 4. TJ 5. RI	1. FE 2. ZK 3. AW 4. ZF 5. WK IS,VA	1. IF 2. MF 3. JH 4. AI 5. AM

4.3 Observation of the learning process

The researcher made observations to confirm the teacher's data and the grades on the report card. So, students who were observed focused on students recommended by the teacher and based on report cards. However, it is possible to identify other students if researchers find students with characteristics that match the characteristics of slow learners. Observations were made in 3 meetings. The aspects observed were: communication skills (verbal and nonverbal), social and emotional, motivation, and speed in completing tasks. In general, observations follow the results of identification based on teacher interviews and report cards. The observed students showed the same characteristics as slow learners. The characteristics shown by the observed students are as follows.

Table 4. Characteristics are shown by students based on the results of observations

Aspect	Characteristics shown
Communication	Verbal language is often used to communicate in the local language. Student's ability to communicate in local languages is not a problem, but they are not fluent in formal language (Indonesian). Nonverbal language (such as gestures) looks striking compared to students in general, and the frequency of gestures is more varied and frequent.
Social and emotional	The ability to socialize with friends is not a problem. For the emotional aspect, they have moods that quickly change from enthusiasm to not enthusiasm.
Motivation to learn	Have low motivation in learning, especially in mathematics. Mathematics is considered a complex subject for them.
Speed of completing tasks	The speed of doing tasks is related to cognitive abilities. Low cognitive abilities cause them to lag far behind their friends when working on math problems given by the teacher.

In addition to the four characteristics above, there are also findings of other characteristics observed through observation, such as difficulty concentrating for a long time, low self-confidence in learning, and female students being shy and quiet. In contrast, male students choose to do activities unrelated to the lesson.

4.4 Identification test

Apart from conducting interviews, checking grades in report cards, and making observations, the researchers also gave tests to all students to identify slow learners. The test material is about arithmetic operations on whole numbers; integer arithmetic operations; arithmetic operations on powers of two and three, square roots, and cubes; KPK and FPB; fractions; unit of measure quantity unit of weight, unit of length, unit of time, unit and volume; time, distance and speed; perimeter and area of a quadrilateral; flat wake properties; spatial properties (cubes and blocks); geometric volume (cubes and blocks); as well as presentation of data in the form of tables, bar charts, and pie charts. After the test, the student scores were sorted from low to high, and five students with the lowest scores were selected after sorting. The following is the result of the identification.

Table 5. Identification Results Based on Tests

SDN A	SDN B	SDN C	SDN D
1. IP	1. DA	1. ZK	1. IF
2. EN	2. RI	2. WK	2. ZO
3. AQ	3. ZA	3. IS	3. MR
4. OS	4. IR	4. FE	4. SF
5. AD	5. WL	5. VA	5. JH

Identification results based on teacher interviews, report card grades, observations, and tests, broadly show similarities, but there are still some differences. Students who intersect these three aspects are concluded to be slow learners. Other slow learners are determined based on teacher and researcher considerations. The number of slow learners identified for each school is 20% -25% of the total number of students from each class VI in each school that is in the lower quartile, except for SDN A due to several considerations from the teacher (referring to the characteristics of slow learners). The following is some analysis.

Based on Table 6, 17 students were identified as slow learners consisting of 6 girls and 11 boys. The summary is as follows.

Table 6. Identification Analysis of Slow learners

School	Teacher Interview	Report Value	Test	Information
SDNA	EN AQ AD	AQ EN FA AD OS	IP EN AQ OS AD	- Four students were selected as participants, namely: EN, AQ, AD, and IP. - IP was chosen because it got the lowest score on the identification test. Only 1 question could be answered correctly out of 17 questions given. - FA was not chosen because it got the highest score on the identification test. - OS was not chosen because, in everyday life, OS showed the ability to understand mathematics, but was lazy, so the value of the report cards and the results of the identification were low.
SDN B	RI IR WL DA	IR NA ZA TJ RI	DA RI WL IR ZA	- Four students were selected to participate, namely: RI, IR, WL, and DA. - NA was not chosen because, in everyday mathematics, there were no problems. It's just that he was recovering from an illness during the NA exam. - ZA and TJ had no problem understanding mathematics but were lazy, so their report card scores were low.
SDN C	ZK WK IS FE	FE ZK AW ZF WK IS,VA	ZK WK IS FE VA	- Four students were selected as participants, namely: ZK, WK, IS, and FE. - AW and ZF had no problem understanding mathematics but were lazy, so their report card scores were low. - VA was not selected, although having the same report card value as WK and IS, because the VA identification test score was the lowest among the three.
SDN D	IF JH AM MF	IF MF JH AI AM	IF ZO MR SF JH	- Five students were selected to participate, namely: IF, JH, MF, AM, and AI. - AI was chosen because the report card score was low - ZO, MR, and SF were not selected because they had no problems understanding mathematics but were lazy, so their scores were low.

Table 7. Slow learner

SDN A	SDN B	SDN C	SDN D
EN (L) AQ (L) AD (L) IP (P)	RI (L) IR (L) WL (P) DA (L)	ZK (L) WK (L) IS (P) FE (L)	IF (P) JH (P) MF (L) AM (P) AI (L)

5 Discussion

Identification is an activity marking individuals to filter and find individuals with uniqueness or problems [27]. Identification is often interpreted as a teacher's effort to

capture students who experience obstacles in learning which is carried out before the learning process to provide services according to student needs. The process of identifying slow learners in this study was carried out by interviewing teachers, sorting student report cards, observing, and administering tests.

Interviews with class teachers need to be conducted because they know their students' abilities best and have indirectly observed each student for at least two semesters. Therefore, each class teacher from each school was asked for their opinion regarding students who had problems learning mathematics. Based on the results of the interviews, students with low abilities based on teacher recommendations generally have the following characteristics: difficulty in learning mathematics (especially story problems), not focusing on learning (concentration is easily dispersed), stammering in reading, shared understanding of mathematical concepts, and lack of interest and motivation to learn. This is in line with the research results, which state that slow learners have weak cognitive abilities, low motivation, unstable social and emotions, and difficulty conveying ideas [21], [28].

Furthermore, after the interviews, the report card scores were sorted from the lowest to the highest mathematical value. Report cards are considered to represent students' abilities. Based on the results obtained, it can be seen that there were several students who, based on the results of the interviews, were not classified as slow learners, but based on their report cards, they were classified as low in mathematics subjects. Several things can influence this. According to the research results, several things cause students to become slow learners, including (1) low intellectual abilities; (2) personal factors, such as long-term illness, frequent absence from school, undetected physical disabilities, low cognitive abilities; (3) environmental influences, such as inadequate housing facilities, low quality, and quantity of food, lack of sleep, unsupportive parents, inadequate classroom conditions in schools, poor teaching quality, inadequate teaching materials, repeated changes to the school curriculum that cause changes in the way of teaching and the material taught; (4) emotional factors: dislike of the teacher's personality, negative parental attitude towards school which causes their children to have the same attitude, feelings of inadequacy, lack of self-confidence and desire for achievement, extreme fear and anxiety which causes poor achievement [15].

In other writings, several factors are explained that cause students to become slow learners, namely: 1) vision problems, which make the writing on the blackboard not clearly visible so that they cannot fully understand the material conveyed by the teacher; 2) health problems, unfavorable health conditions can slow down the growth and development of children; 3) parents who are busy, illiterate, and economically disadvantaged cannot be a support system for children in learning; 4) violence in schools, violence can foster students' hatred of teachers, this will affect psychological learning abilities; 5) parents who are over protective, this will cause children to be awkward interacting with children their age; 6) emotional and social, the unpleasant emotions that children often experience will damage their outlook on life and will form an unpleasant character. Waived children feel rejected, and insecurity can affect their ability to develop skills and socialize with other children [22].

Based on these theories, it can be seen that a child can become a slow learner due to two things, namely: internal and external causes. Internal causes, such as intellectual level (IQ) and due to illness, internal causes are difficult to change because they are congenital. External causes include the environment (teachers, friends, and family), facilities, and infrastructure. Students who become slow learners due to external factors can still be cultivated so that their learning outcomes are optimal in a conducive environment that can support their learning process.

The next stage is observation. Observation is the basis for assessing human skills and behavior. Therefore observation is a helpful strategy for identifying behavioral problems [24]. In this study, observations were made to confirm the data obtained from the teacher and report cards. So, students who were observed focused on teacher recommendations students and based on report cards. However, it is possible to identify other students if researchers find students with characteristics that match the characteristics of slow learners. Observations were made in 3 meetings. The aspects observed were: the ability to understand mathematical concepts, language (verbal and nonverbal), emotions, motivation, and socialization. In general, observations follow the results of identification based on teacher interviews and report card scores. The observed students showed the same characteristics as slow learners.

Last is the test. The questions given are fundamental questions that every student in previous classes has studied. An example of the questions is as follows.

2. Hasil dari 1606 + 924 : 22 adalah …
   A. 115
   B. 125
   C. 1648
   D. 1718

Fig. 1. Identification Questions

Most of the students who could not answer this question were students whose names were listed in Table 7. They did not understand the nature of integer operations, and division should have been done first, followed by addition. The students in Table 7 could only answer a few of the 17 questions. Several theories state that students with difficulty in mathematics are classified as slow learners [10], [13]. It is supported by the statement that slow learners are very limited in understanding abstract and symbolic matters (such as language, numbers, and concepts), and their reasoning abilities are also low compared to average students [5].

Based on the four identification processes passed, it is known that 17 slow learners come from four schools in one of the villages in Kerinci Regency, Indonesia. Some of these slow learners have characteristics as previously described. Parents, teachers, and the school can support them according to their needs. Several things can be done to support slow learners in learning, including creating The Individualized Education Program (IEP). IEP is a curriculum or a learning program based on a child's style, strengths, and special needs in learning [29]. Thus, EIP is a program based on the needs of each individual. This form of learning has been introduced in Indonesia since

1992, which is a learning design for students with special needs so that they get services according to their needs by focusing more on the abilities and weaknesses of students' competencies.

Apart from EIP, more varied learning methods or strategies can also help slow learners. There are four methods that teachers can use to teach slow learners, namely: 1) learning with audio and video so that students can repeat lessons anytime, anywhere; 2) using mastery learning strategies, namely teaching systems that emphasize achieving teaching goals by all students by providing various study times, 3) using modules, which are independent learning packages that contain learning concepts or materials, and 4) using computer-assisted learning, emphasizing exercises that teach facts and concepts to students [5]. Computer-assisted learning can help students solve mathematical problems [30], [31].

Because slow learners have difficulty understanding abstract things, learning with a realistic mathematical approach aligns with this [32], [33]. Realistic learning media will also really help slow learners to understand math material. One alternative media that slow learners can use is Saringgong. Saringgong is one of Indonesia's traditional regional games that use pebbles as a medium, and this game can train slow learners to make simple additions [34]. In addition, game-based learning can also be made on digital platforms, and this can visualize abstract things to be more real and more attractive to students [35], [36], [37].

In addition to the assistance mentioned above, the collaboration between teachers, parents, and schools is no less essential to support slow learners in learning. Communication with parents is needed to discuss the learning difficulties of slow learners at school so that parents can work together to help their children study at home. Meanwhile, with the school, teachers can communicate about the provision of facilities and infrastructure that can support the learning process of slow learners.

6 Conclusion

Based on the results and discussion, it can be concluded that the process of identifying slow learners can be done by interviewing teachers, looking at student learning outcomes through report cards, observing the learning process in class, and giving tests to students. Based on the identification results, 17 students were classified as slow learners with difficulties in conveying ideas (communication problems), unstable emotions, low learning motivation, difficulty completing assignments (especially math problems), difficulty concentrating, and a sense of low self-confidence. Thus, it is hoped that the results of this identification can provide input for teachers in preparing appropriate learning strategies for slow learners and all students in general according to their individual learning needs.

7 Suggestions

It is recommended that future researchers take a more significant number of participants, make the interview questions more detailed using a structured interview guide

format, and make observations longer in order to get better results. It is hoped that with the identification of slow learners, schools can facilitate students according to their learning needs, such as preparing Individual Learning Programs (PPI), appropriate teaching materials, and a supportive learning environment.

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